

REMARKS/ARGUMENTS

Upon entry of this amendment, claims 1, 7, 13-15 and 46-51 will be pending in this application and presented for examination. Claims 1 and 15 have been amended, and new claims 46-51 were added in order to more distinctly claim the invention. Claims 2-6, 16-22, 28-37, and 43-45 have been canceled without prejudice in the present Amendment, and claims 8-12, 23-27, and 38-42 were already canceled previously. Support for the new and amended claims can be found in the Specification. No new matter has been added. Reconsideration is respectfully requested.

Information Disclosure Statement

Applicant hereby submits an Information Disclosure Statement with the present Amendment.

Claim Rejections

In the Office Action mailed August 9, 2005, claims 1-7, 13-22, 28-37, and 43-45 were rejected as follows:

- i) Claims 1-7 and 13-15 are rejected under 35 U.S.C. 101 because the claimed invention is allegedly directed to non-statutory subject matter.
- ii) Claims 1-7, 13-22, 28-37 and 43-45 are rejected under 35 U.S.C. 101 because the claimed invention is allegedly not supported by either as an asserted utility or a well established utility.
- iii) Claims 1-7, 13-22, 28-37 and 43-45 are rejected under 35 U.S.C. 112, first paragraph.
- iv) Claims 1-4, 6, 13-19, 21, 28-34, 36, and 43-45 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Zheng et al. (U.S. Patent No. 6,263,287) in view of GOC.

- v) Claims 5, 20, and 35 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Zheng et al. and GOC in view of Rocke et al. (U.S. Application Publication No. 2002/0111742).
- vi) Claims 1-4, 6-7, 13-19, 21-22, 28-34, 36-37, and 43-45 are rejected under 35 U.S.C. 103(a) as allegedly being obvious over Garner et al. (U.S. Application Publication No. 2003/0033290) and Ogata et al. in view of GOC.

Applicant respectfully traverses all of the Examiner's rejections. But in order to expedite prosecution of the above identified application, claims 1 and 15 have been amended without prejudice and claims 2-6, 16-22, 28-37, and 43-45 has been canceled without prejudice. Additionally, new claims 46-51 have been added to more distinctly claim the invention.

Pending Claims 1, 7, 13-15 and 46-51

Claims 1, 7, 13-15 and 46-51 are directed to statutory subject matter. For example, these claims recite manipulation of data representing physical objects or activities (pre-computer process activity). The pre-computer process activity includes transforming measurements of physical objects or activities outside the computer into computer data. *See* MPEP, § 2106.IV.B.2.(b)(i). Specifically, claims 1, 7, 13-15 and 46-51 include two independent claims 1 and 46, each of which recites "expression levels of genes." "[E]xpression levels of genes" present one or more data gathering steps that are not dictated by the algorithm but by other limitations that require some antecedent steps. For example, these antecedent steps are described in Specification, pages 15-16. Hence claims 1, 7, 13-15 and 46-51 are directed to statutory subject matter for at least the above reasons.

Additionally, claims 1, 7, 13-15 and 46-51 are directed to methods that are supported by an asserted utility or a well established utility. For example, independent claim 1 recites "grouping the expression levels according to the selected at least one biological

characteristic" and "performing one or more statistical methods to the grouped expression levels". In another example, independent claim 46 recites "selecting certain expression levels for cluster analysis according to the selected at least one biological characteristic" and "clustering according to the selected at least one biological characteristic". These claimed processes can be used for "associating biological significance with the experimental results". Specification, page 17. Hence "[t]he 'making sense' of potential hits can be done efficiently and accurately." Specification, page 18. The "making sense" is very useful in practice because, for example, hits need to be prioritized and only the top few will be pursued by cell-based assays or animal experiments. *See* specification, page 1, line 16 through page 2, line 2. Hence the claimed methods have utility, and a person skilled in the art would be able to use the claimed methods.

Moreover, Zheng, GOC, Rocke, Garner, and Ogata, even if combined, fail to disclose or suggest all limitations of claims 1, 7, 13-15 and 46-51. More particularly, independent claim 1 recites "wherein the database includes database entities being designed to mimic biological entities, a first relationship among the database entities mimicking a second relationship among biological macromolecules", "grouping the expression levels according to the selected at least one biological characteristic", and "performing one or more statistical methods to the grouped expression levels". Zheng, GOC, Rocke, Garner, and Ogata, even if combined, do not appear to disclose or suggest all of these limitations. Hence claim 1 is allowable for at least the above reasons. Additionally, claims 7 and 13-15 are allowable for substantially the same reason as claim 1, and particularly for the specific features they recite.

Claim 46 recites "wherein the database includes database entities being designed to mimic biological entities, a first relationship among the database entities mimicking a second relationship among biological macromolecules", "selecting certain expression levels for cluster analysis according to the selected at least one biological characteristic", and "clustering according to the selected at least one biological characteristic". Zheng, GOC, Rocke, Garner, and Ogata, even if combined, do not appear to disclose or suggest all of these limitations. Hence claim 46 is allowable for at least the above reasons. Additionally, claims 47-51 are allowable for substantially the same reason as claim 46, and particularly for the specific features they recite.

CONCLUSION

In view of the foregoing, Applicant believes all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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